AMERICAN FRUIT GROWER MAGAZINE

July, 1930
Ten Cents a Copy

International's "Seven for One" Record

East, West, North, South—everywhere—fruit growers are saying "the Six-Speed Special is a wonder." Winning performance and low upkeep cost makes them all enthusiastic about this truck. J. N. Coward (shown above) of Eagle Lake, Florida, says "The Six-Speed Special is the greatest-performing truck I ever used."

is proof of remarkable value

Every truck user should give full consideration to this fact and its bearing on his own future success with trucks:

In ten years International truck production has increased 700 per cent, while the total truck production of the industry has increased only 100 per cent.

Such an increase from a small beginning would not be important—it is necessary that you know and bear this in mind also:

Ten years ago, in 1919, International Harvester was already a highly successful truck builder of fifteen years' experience. Even then it was one of the leaders of the industry, with a production of thousands of trucks per year.

From that vigorous starting point International production went into high gear. Demand for International trucks sprang ahead by leaps and bounds, with this result:

Last year International Harvester built seven times as many trucks as it was producing in 1919. In the same year—1929—the industry as a whole was building only twice as many trucks as were being turned out in 1919.

Year by year International Harvester reaches and passes new and significant milestones in truck success. The consistent march of the Company toward a dominant position in truck building is the best possible evidence of the value of the International product. It is the everyday truck buyer himself who provides this evidence. We offer this steadily growing preference for International Trucks and Service as a guide to any man in search of economical transportation.

W. Ray Martin, of Winter Haven, Florida, wanted to be shown, so they told him to drive a Six-Speed Special out on his jobs for a test. He bought two, and within the short space of one season his two trucks grew to a fleet of nine! The large photo above shows one of his fleet going through an orange grove with a load of 44 field crates. Below: Six speeds forward come in handy in loose, shifty sand.

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INTERNATIONAL TRUCKS

American Fruit Grower
MAGAZINE

with which is consolidated

AMERICAN PRODUCE GROWER

VOLUME 50 NUMBER 7

The "Consumer Package" for Apples, Peaches and Pears

ANY THOROUGH investigation into the practices connected with retail fruit marketing is bound to disclose two retail sales practices that yield widely contrasting profit margins to the retailer and, inversely, to the fruit grower.

Fruits such as reach the consumer in the same package in which they left the fruit farm packing house are sold over the retail counter on a profit margin of about one-fourth of the selling price. In this class are the berries, currants, gooseberries and grapes. Their retail price rises and falls with the wholesale market, the retailer's margin is ample but not excessive, and the grower probably receives as large a proportion of the retail price as is possible.

BUT some tree fruits have, unfortunately, fallen under the operation of an evil retail system by which the grower is unjustly deprived of a large measure of the value of his product. The "bulk" package appears to be mainly responsible for this condition. The "bulk" package is one from which the retailer sells, by weight or measure, smaller lots than the contents of the package. Such packages include the barrel, bushel box and basket.

Curiously enough, the largest of these, the barrel, was originally a "consumer package." So also was the bushel. But modern living conditions, with the lack of storage facilities in the home, have reduced and again reduced the amount of perishable foods that may practicably be bought at one time.

IN THE retail sales of apples, peaches and pears a trade custom has grown up and become firmly established by which these fruits are sold very generally by the 25-cents'-worth. In the case of apples a weight of three pounds is usually sold for 25 cents, with little regard for the ups and downs of the wholesale price. In the case of peaches and pears, a still more discreditable retail practice obtains. The long quart berry box is used for a display package. Three peaches or pears in the bottom of the box and six on top give the appearance of a sizable package of fruit, for a quarter. But three pounds of apples (about eight), or nine peaches or pears selling for 25 cents at retail represents four to five dollars a bushel, of which the grower should receive a larger proportion than he does.

TO ACHIEVE this desirable result a new type of package may be necessary, one that will contain a practical individual single purchase of the fruits under discussion, possibly five, possibly ten pounds in capacity. Ten or a dozen of such "consumer" packages would need to be packed in a shipping container, to lessen the costs of handling.

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A veneer package, something on the principle of the six-tray tomato container, might be worked out, were it not for the unfortunate attitude the veneer package manufacturers have taken against progress, or even a frank discussion of possible improvement in fruit packages. And it is the history of industry that manufacturing groups that present closed minds to the problems of their customers seldom recover any degree of sensible leadership.

In all probability the practical retail package for apples, pears and peaches will be worked out by the paperboard industries. But the design of such a package is only half the battle.

A FIVE-POUND or ten-pound package of fruit such as a careful grocer would feel free to pass over the counter to a valued customer must needs consist of more than a practical package. There must be five pounds or ten pounds of uniformly good fruit. The quality of the fruit, whether Fancy, Choice, A, B or Commercial, must be easily apparent to the purchaser, that there may be little chance of deception, even of self-deception.

The package should permit the display of really choice, highly colored fruit to best advantage, for the appearance of highly colored fruit on display is the most potent selling force—witness the skillful use made of apples as window displays by food stores of all kinds.

The package should be light in weight, fairly rigid in construction, and relatively inexpensive, for the food package, when emptied, is almost invariably thrown away. If in addition to these qualities the package is, if not fireproof, at least not easily inflammable, its usefulness and social value will be increased.

THE ONE-DOZEN apple box appears to be a step in the right direction. But to stimulate a greater use of apples in the American dietary the use of a retail package of larger size should be encouraged.

An ideal situation would be for some national fruit organization to appoint a commission to study the question of a consumer package. If, following the completion of such study, a package design, or even a series of packages were to be approved, patent designs could be secured with ownership vested in the national body, who in turn would license their use under conditions, the violation of which would mean forfeiture of license to use the package.

SOME such plan if carefully worked out would, if successful in practice, have the effect of bringing up the cash returns from apples, pears and peaches to the growers. Such a consummation is a highly desirable end toward which to work, and would justify the expenditure of intensive and careful labor.

If by some means the apple, peach and pear growers could secure a fair proportion of the selling price of these fruits, their greater prosperity would be assured.

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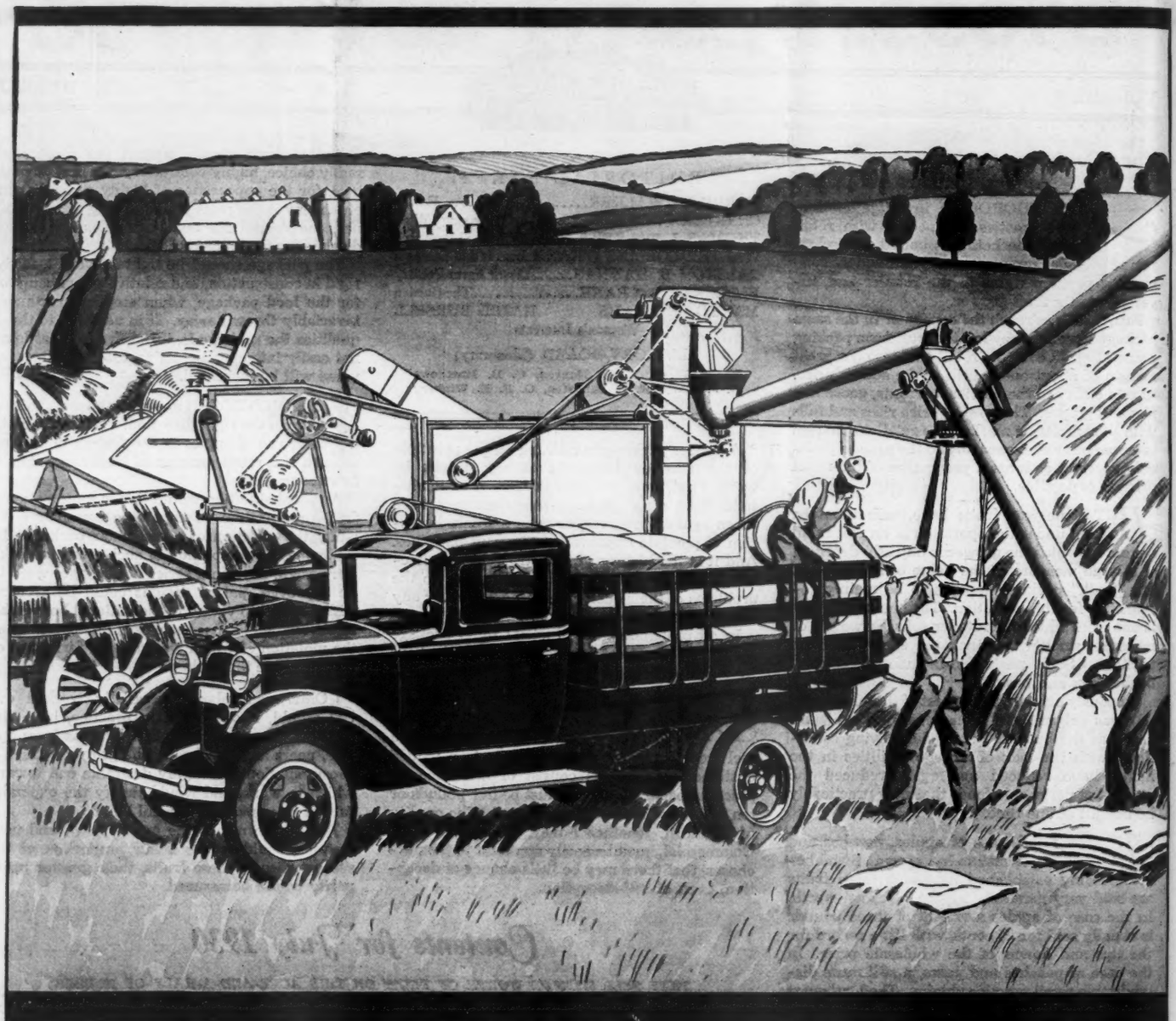

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Ford

They Sell $12,000,000 Worth of Fruit on This Acre-and-a-Half of Rubber Tires

Photographs Courtesy Benton Harbor News-Palladium

At the Benton Harbor, Michigan, Market, the Grower Deals Directly with the Buyers from the Fruit Distributors, and Receives the Highest Market Price for His Truckloads, in Cash on the Spot, at the Time of Sale

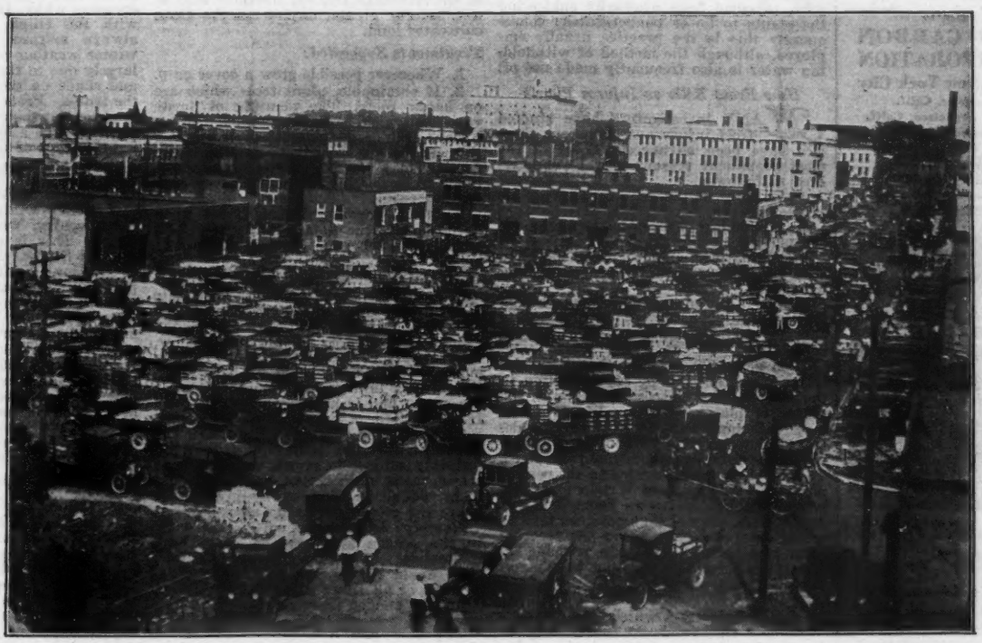
By FRED L. PETTY

LAST YEAR, between June and December, Michigan farmers sold products of farm, orchard and vineyard totaling $8,000,000 cash, delivering the fruit and carrying the money away with them, all on one and one-half acres of land just off the main streets of the town of Benton Harbor. They sold $4,000,000 worth more to buyers who came to the spot, guaranteeing grade and quality and loading the product in car or truck at or near the orchard where it grew, without moving it physically to the one and one-half-acre yard. The one and one-half acres comprise the Benton Harbor fruit market, world's greatest cash market place for orchard products in direct transaction between grower and buyer.

The little city of Benton Harbor snuggles cosily along the shore of Lake Michigan at the point where the St. Joseph River flows into the lake. Its inhabitants number around 15,000—double that many in summer. It lies at the gateway of Michigan's great summer playground. Tourists linger there or pass through to more northerly points. Most of them remember the town as a place where street cars often are manned by long haired, luxuriantly bewhiskered males from the queer settlement called the House of David.

Many tourists, however, may have wondered at the size of the new telephone exchange building being erected at Benton Harbor last fall. Had they inquired, they might have learned that this little city is third of all the cities of the State in telephone business, mostly long distance, and among the foremost in telegraph business. That is why the utilities folks spent $350,000 for phone housing and facilities. In addition to the regular exchange service, 21 direct lines connect different fruit brokerage houses with Chicago, making phoning to that city over 100 miles away simply a local proposition. The Farmers' Fruit Market is the focal point where originates this large demand for and use of fast communication.

Last year, as stated, farmers took away from this open air market the sum of $8,000,000 for garden and orchard products sold, delivered and transferred to new owners. Each day's marketing is a closed transaction. Each day's business is settled that day. In addition, they sold $4,000,000 worth more, delivering it elsewhere.



This market is the meeting place of those who have and those who want.

From a few hundred to over 1000 truckloads are brought to the Benton Harbor market each day, from the time the earliest strawberries begin to move in the spring, until the last of the apples have been sold in late fall.

Motor Truck Has Revolutionized Marketing Method

FARMERS delivered this great volume of orchard products in their own large capacity motor trucks. The development of this selling system is in fact based on good roads and large unit motor transportation. They deal in quantity. Time is too precious to waste in piecemeal delivery. Fruit is too valuable and too perishable to depend upon custom trucking. The orchardist must know that when the day's harvest is gathered, it can start forthwith for market, and so he has his own truck waiting. It is a far cry from the team and wagon days to the present, when he pulls out of orchard or vineyard with a quarter of a carload of ripe fruit and within an hour or two, at most, is selling it at a great central meeting place of buyer and seller. Big capacity trucks also have increased the marketing radius by many miles. The Benton Harbor market draws business from several counties.

On a busy summer day it is easy to count 650 farmers' motor trucks delivering fruit to this market. During grape harvest, and sometimes when peaches are ripening fast, over 1000 farmers' motor vehicles enter and leave the market place in a day. Here farmers bring their fragrant load of Concords, deliver to reloading platform or direct to the buyer's truck, take their money and go home for the next day's loads. Motor trucks make the market what it is. Motor trucks deliver fresh and fine a luscious cargo of fruit that was on tree or vine that morning to consumer or distributor the next morning in Detroit, Chicago, Indianapolis, Louisville, St. Louis and as far as the Twin Cities.

Truck transportation in and out of this market has revolutionized the marketing of Michigan fruit in the last 10 years. Before the truck and hard roads, fruit was shipped in iced cars or by boat. This traffic still serves distant points, but within the great consuming territory compassed by a 200-mile radius from Benton Harbor, the truck carries most of the fresh fruit. This method means less delay, fewer handlings, fresher fruit to the consumer, less time for a possible market slump. Hundreds of small communities, too, are now important primary customers of the Michigan fruit growers, because they can absorb truckloads of fruit, but not carloads, at a time.

Competition Keen

THE day of motor transportation of farm products has brought many new buyers to this great cash market. Grocers may come to buy their own supplies for store distribution. Independent truckers and peddlers come to lay in their stock in trade. Farmers come for a load of fruit for themselves and a few of the neighbors. Families come to the market or direct to nearby farms, making a holiday of the expedition for direct buying of the season's fruit supply. In consequence, competition in buying has become keen. Benton Harbor has the reputation of being the best market for growers, yet a certain and dependable place for buyers to supply their needs. Prices have been maintained largely by reason of quality and pack. For this work, credit should be given the Michigan State Department of Agriculture.

An advantage which the grower gets here also is found in the immense volume of products and their continuous appearance from the beginning of the season to the end. This attracts competitive buyers at all times. The farmer deals directly and individually with the buyer. He sells and delivers his own stuff, gets the money and goes home, with the satisfying sense of having done business without the service of a middleman. He knows just what the market was that day, knows that what he got was the best deal he could make and likes it.

Larger Quarters for 1930 Crop

THIS market place is simply a point of meeting of those who have and those who want. The space is too small for the business, however, and next season the growers will use a new market place. "The Benton Harbor market started about 15 years ago," states James H. Pound, energetic secretary of the Benton Harbor Chamber of Commerce. "There was too much congestion on the streets, caused by buyers stopping farmers on their wagons, with loads of fruit headed for car or boat landing. The city sought to meet this nuisance by setting aside certain streets where this curb trading might be done, thus keeping the wagons off the busier streets of the shopping district.

"After two or three years of this," continues Mr. Pound, "the city decided to buy a half acre of land for a market place. This has grown and developed until the present space is overcrowded. Now we have five acres for a new market site. About two and one-half acres will be ready for use for the marketing season of 1930. The land will be paved with concrete and the streets leading to it will be paved. Possibly some buildings will be erected as needed, though the present market is in the open. There is space adjacent to the new market for offices of brokers, also loading platforms. There is a railroad siding, and a small storage plant will be provided for temporary use. Eventually we shall use the entire five acres for fruit market, with all facilities for wholesale and retail marketing."

Mr. Pound further states that for a number of years the business of the market has ranged around the figures given earlier, though 1929 values were large on account of high prices throughout the season.

Michigan rates as the fourth State in (*To Page 13*)

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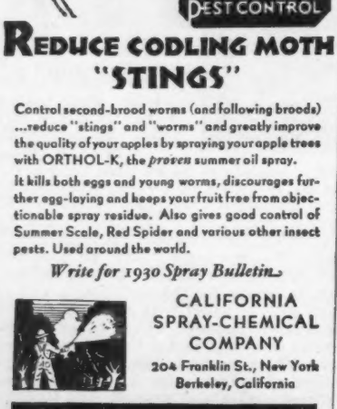

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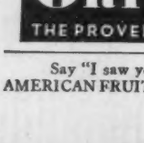

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QUESTIONS and COMMENT

Conducted by T. J. TALBERT

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Hardening Off Plants

THE TERM "hardening off" to the average grower means the making of plants less susceptible to frost injury. The same term, however, may be applied when the plant is treated in such a way as to cause its tissues to withstand other unfavorable conditions, such as drying winds and sunshine. It is common knowledge among fruit, garden, and truck growers, that succulent, tender, leggy, or soft plants are more likely to be injured by unfavorable soil and water conditions than stocky, hardy, shorter or less succulent plants.

Some Methods Used

GARDENERS and fruit growers use various methods and combinations of methods for hardening off plants. Some of the most common may be listed as follows:

1. Exposing the plants to relatively low temperatures for a week or more, before transplanting.
2. Withholding water.
3. Checking growth of the plants by allowing them to become root bound in pots or other containers.
4. By growing the plants in poor soil.

Plants are generally hardened gradually to prevent a severe check in growth or possibly the killing of the tissues. By subjecting the plant gradually to lower temperatures, one is usually able to make it more resistant to unfavorable factors, such as cold, sunshine, drying winds, etc. In general, the best results from hardening off seem to come from gradually subjecting the plants to lower temperatures; consequently this is the practice usually employed, although the method of withholding water is also frequently made use of.

How Frost Kills or Injures Plants

MANY investigators have studied frost injury and numerous theories have been advanced. Some of the most prominent reasons may be enumerated as follows:

1. Rupture of the cells by growing ice crystals.
2. Mechanical effect of ice formation on the plasma membrane.
3. Withdrawal of water from the cells.
4. Dessication, or drying, and resulting water loss.
5. Precipitation of proteins through "salting out."
6. Precipitation of proteins by increase of acidity.

It is generally believed that a loss of water from the cells by ice formation in the inter-cellular spaces accompanies the killing of plants by cold. Plant tissues may withstand temperatures several degrees below freezing, without injury, providing ice formation does not take place. This has been demonstrated in the case of potatoes. The work of Wright and Taylor, of the United States Department of Agriculture, showed that potatoes may be cooled several degrees below the freezing point and warmed up again without injury if ice formation does not take place.

Trees Most Likely to Injury

THE fruit trees which are generally most susceptible to injury may be described as follows:

1. The tree which bore a crop the previous year and which has been weakened as a result, may be more easily injured by the winter cold.
2. If trees have lost their foliage prematurely, due to an attack of insects or diseases, they may be susceptible to injury in winter weather.
3. If trees make a very tender succulent growth, as a result of too much stimulation or fertilization, they are less likely to withstand severe winter conditions.
4. Trees grown on soil which is inclined to be a little wet are generally injured more by severe winter weather.

Remedy: From the conditions which have been cited above, it is obvious that if the grower is able to control these problems and cause the trees to grow in a more satisfactory way, he should increase their hardiness or ability to withstand severe winter weather. Such horticultural practices, therefore, as spraying, pruning, cultivating, fertilizing, and drainage must be given careful attention and the best practices known should be put into operation where required. By so doing, the producer is likely to succeed much better than the average.

Parts of Tree Affected by Winter Injury

A LACK of hardiness may cause the fruit tree to be injured in the buds, leaves, fruit, sap wood, bark, cambium layer, crotches, roots, or trunk. No part of the tree, therefore, is immune from injury although some parts are more susceptible than others. Several varieties are notoriously subject to injury in the crotch of the limbs or at the base of the trunk where it joins the ground. One part of the tree may show injury while other parts may be entirely free from the same.

Root Injury

THE roots are usually more tender, and consequently more subject to injury, than the tops of plants. The roots of fruit trees, if exposed to a temperature of from 18 to 20 degrees Fahrenheit, will usually be killed or seriously injured. Root injury more often occurs during dry winters of extreme cold. Sandy soils also freeze deeper than heavier soils. Where root injury is likely to occur, it may be better to leave the cover crop on top of the soil and defer plowing under until springtime. Since clean cultivated soils have a lower moisture content than soils with cover crops, as Emerson showed at the Nebraska station, this may also be a cause for greater injury on the clean cultivated land.

Treatments Suggested:

1. Wherever possible grow a cover crop.
2. If obtainable, plant trees which are on hardy roots. The planting of hardy varieties which have been propagated on French crab seedlings will not accomplish this, as the resulting trees may be hardy or they may not be. Better results are likely to be obtained by using hardy crab seedling roots.
3. When growers demand trees upon hardy stocks, the sooner nurserymen will endeavor to solve the problem and supply them.

Bark and Trunk Splitting

IF FOR any reason trees grow late into the fall and are subjected to the effects of a sudden cold wave, or if the ground is covered by a heavy fall of snow, before being chilled the trees are usually more likely to be affected by bark splitting. This injury occurs most often at the crown and is known as "crown rot." It is possible, of course, that the crown rot may be due to other causes. In the Central States, the Grimes variety is notoriously subject to crown rot. For this reason most nurserymen now propagate it by double-working or by growing it above the ground on hardy stocks.

Remedy: Discontinue cultivation early in the season and grow a cover crop if possible. If the trees are headed low, this should benefit them greatly. Keep in mind at all times varieties resistant to injury by sudden freezes.

Sun Scald

YOUNG trees usually suffer more from sun scald than old ones. In the nursery, the young trees may have some protection by growing close to other trees. When transplanted to the orchard, however, they stand alone and if the trunks of the trees are not shaded, covered, or protected in some way, they may be seriously injured by what is known as sun scald. The injury generally occurs in late winter or early spring. The tissues and cells of the bark and wood on the south and southwest sides of the young tree trunks may be warmed up rapidly during afternoons when the temperature is relatively high. When the sun goes down, or if hid by clouds, the temperature may fall rapidly. Such a condition of affairs may be repeated day after day, and finally the bark splits and separates from the wood beneath, causing sun scald.

Treatment:

1. In planting, slightly tip the trees toward the south or southwest, in order that the shade of the top may fall on the trunk.
2. Wherever possible leave the lowest limb on the southwest side.
3. Head the trees low.
4. Wrap the tree trunks with newspapers, gunny sacks, or blotting paper, and remove in the spring. Such wrapping will not only protect them against sun scald, but it will also prevent injury by rabbits.
5. Wood veneer wrappers may be used, or a shingle may be pushed in the ground on the south side of the tree to cause its shade to fall on the trunk.

Crotch Injury

CROTCH injury is believed to occur in the winter and is thought to be due to frost action. Of the varieties grown in the Central States, perhaps the Stayman is more susceptible than any other. Other varieties, however, are often injured in the crotch.

Remedy: Since this trouble more often occurs in trees pruned to the open head, it is believed that if the pruning and training is such as to develop a modified leader, less crotch injury is likely to occur. In the pruning work it is also important that the pruner select for wide angles rather than narrow ones. For example, the Jonathan lends itself readily to pruning for scaffold branches with wide angles, while the Rome is difficult to prune without developing many narrow angles. Bearing trees showing crotch injury should be braced, especially when carrying a heavy load of fruit.

Perhaps crotch injury is most often due to the fact that the wood and bark in the crotches which the larger branches make with the trunk or main stem do not always mature properly before severe winter weather occurs. This is no doubt largely due to the insufficient leaf surface and shade on the inside of the tree near the trunk. Proper pruning to open up the branches for the admission of sunlight and air should go a long way toward preventing this type of injury.

Black Heart

TREES which have been injured by severe winter weather may show a black center, which is known as black heart. This is common throughout the Central States, particularly in the northern border. Young trees ready for transplanting may show this trouble and older ones which have been planted for two or three years may be affected. Such trees may make a slow, poor growth for a few years, or they may die during one season. Injured trees may overcome the malady after a year or so and be just as profitable as they would have been had they never been affected. It is usually safer, however, to use unaffected trees. The cambium, or live tissue, should continue to function in black heart trees.

Care of Nursery Stock

IN nurseries at latitudes as high as northwest Missouri, fruit trees of the more tender varieties particularly, which are to be sold in the spring, should be dug in the fall and kept in a suitable nursery stock storehouse. This suggestion is made in spite of the fact that many growers insist upon trees which have not been in storage. Some have found, however, to their great loss, that generally trees dug and stored when one year old may be much better than trees which are allowed to stand out in the nursery and be subjected to the severity of winter conditions.

The nurseryman, like the fruit grower, should endeavor to procure an early, thrifty, vigorous growth and then harden off the trees by discontinuing cultivation and sowing a cover crop. He should also practice careful and timely spraying in order to protect the foliage against damage by pests. It is needless to say that the digging should be done after the leaves drop naturally and that storing work should be handled properly and with dispatch, to secure the best results.

Handling Frozen Trees and Fruit

FRUIT trees which have been frozen should be given the best cultural practices known, such as tillage, fertilizing and proper spraying. Do not disturb the injured portions until you are sure

that the bark is dead or that the branch is dead and should be removed. Growers often resort to heavy pruning after trees have been frozen. This is usually a mistake.

The fruit, if frozen in the fall before picking, should be allowed to remain on the trees until it has an opportunity to thaw out gradually and naturally. If the temperature does not go lower than from 25 to 28 degrees Fahrenheit, some varieties will not be seriously injured if they are not disturbed for a few days.

Hardy Varieties of Apples

SOME of the hardiest varieties of apples grown in the Central States are: Oldenburg, Delicious, Wealthy, McIntosh, Winesap, Minkler, Rome Beauty, and Arkansas; while some of the tenderest sorts are: Rhode Island Greening, Stayman, Yellow Newtown, Grimes, Baldwin, and Northern Spy.

Dusts for Peach Curculio

What spray or dust is the most valuable in control of the late brood of the peach curculio? This brood stings the peaches five to 10 days before gathering for shipment. The State has a residue tolerance of arsenic trioxide of 0.015 grain per pound of fruit. This tolerance makes it necessary for us to spray not later than three weeks before ripening. With reference to the article in the February issue by Anthony Spuler in regard to using mineral oil or fish-oil with the arsenate, kindly advise if I can use this mixture on peaches in connection with sulphur as a spray without damage or residue above the tolerance allowed, and, if sprayed three weeks before ripening, the protection in days afforded. Kindly give me the formula as accurately as possible.—*H. L. H., Georgia.*

GOOD DUSTING work throughout the season and up until within about a month of harvest time may be effective in controlling the peach curculio.

To apply oil in a spray, as you suggest, in spraying peaches would undoubtedly increase the amount of residue on the fruit at harvest time. For this reason it would be inadvisable in most instances to use oil.

The first summer dust for peaches should be applied when about 75 per cent of the petals have fallen, using the 95-5 sulphur lead arsenate dust. The second application should be made when the calyces or shucks are shedding, and where curculio is present a special dust application should be made about seven days after the second dusting. Additional dustings should be made at intervals of about 10 or 12 days, consisting of the same materials at the same dilutions up until about a month of harvest time.

Dropping of Plums

I have some three-year-old Burbank and Wickson plum trees growing in red, sandy, clay soil. These trees have been well fertilized with cow pen fertilizer and well cultivated since first planted. Growth and color have been wonderful. But last season after putting on a wonderful set of fruit, the fruit commenced to drop and continued to do so until every plum was gone. A great many of the plums were as large as guinea eggs. An examination of the plums revealed that they had not been stung by insects, were not wormy and were apparently sound. Some, however, did show on the upper side and next to the stem a spot of yellowish discoloration, yet were hard and firm. These same trees are performing the same way this season. Trees of other varieties in adjacent rows, in the same soil and receiving the same attention, do not show this trait. Now, what's my trouble?—*W. E. A., Louisiana.*

FROM THE description which you give, it is our opinion that the unfruitfulness of the plum trees may be due to one of two or more causes:

First, it is possible that the trees have been making too much vegetative growth to be very fruitful.

Second, both varieties, Burbank and Wickson, may not be supplied with proper cross-pollination at blooming time; that is, the varieties of plums growing near, as well as the two sorts mentioned, will not act as cross-pollinizers for these sorts.

Third, it is possible that the dropping of the fruit is due to an attack of brown rot, which is often very prevalent in your section of the country.

To make sure as regards to the last cause, that of brown rot, it will be well to begin spraying just as growth is starting, applying a second application as the husks or shucks drop, and continuing the spraying work at intervals of about two weeks up until within four or five weeks of harvest time.

When to Plant Peach Trees

Having purchased two acres of land, I have decided to set out some peach trees. Is it advisable to set them out in the fall? Or would the advantages of waiting justify planting next spring? If not, what time should they be planted in the fall? Would this time of planting be proper for shade and evergreen trees? How far apart should the rows be, and how far apart in the rows in the case of peaches? A fruit grower at one time told us that peach trees do best in an acid soil. As chickens range on this soil, we would like to lime it frequently. Is the statement regarding acid soil correct?—*T. J. P., Ohio.*

ON ACCOUNT of the danger of some winter injury, it is believed for your section peach trees would in general do better if transplanted in the spring instead of in the fall. As a rule early spring planting gives better results than late spring setting.

In general the latter part of May or first part of June is too late for the grower to secure the best results from transplanted shade and evergreen trees. Where such trees have been kept in cold storage in good condition for growth, it is, of course, possible to transplant them as late as the dates mentioned above and secure good results. With such late planting, however, it is all the more important that the trees be irrigated frequently and cultivated carefully throughout the growing season.

For profitable results, peach trees are rarely set closer than 20 by 20 feet on the square plan. Most growers are of the opinion that better results are secured by planting on the square plan 22 by 22 feet or 24 by 24 feet.

It is true, peach trees will endure a fairly acid soil, although a soil approaching a neutral condition as regards to acidity may give profitable results if other factors are given proper attention.

You can be assured that liming the soil sufficiently to cause a good growth of leguminous crops like clover and others will not be injurious to fruit trees.

Mildew on Gooseberries

Can you tell me what to do for my gooseberry bushes? I have two kinds. The large kind gets a mildew on the leaves and berries. The small variety does not have this.—*F. B., Montana.*

THE first spray for the control of the mildew of gooseberries should be applied as the first leaves appear in the spring. Lime-sulphur solution at the rate of one and one-fourth gallons of commercial concentrate to 48¾ gallons of water may be used. This spray will also control anthracnose and leaf spot. Since biting and chewing insects may also be present, it is usually advisable for the grower to add one pound arsenate of lead to every 50 gallons of spray. The second spray should be applied from 10 to 14 days after the first spray, using the same chemicals at the same dilutions.

One or two additional summer sprays at intervals of 10 to 14 days, using lime-sulphur and arsenate of lead as recommended may be needed.

Pruning Winter Injured Trees

I have a peach orchard of 400 trees planted in 1914 on thin shale soil. In 1917 the locusts nearly killed the trees and in order to save them I was forced to prune them. Very poorly shaped trees resulted. The trees are healthy, having borne three good crops since 1927. Last year a severe drought during midsummer stopped the normal growth until late rains started it so late that the new wood did not mature and was nearly all frozen last winter, and a freeze on April 24 destroyed all prospects of a crop this summer. I want to cut off some large low-set limbs, up to three inches in diameter, then cut the remaining tops back to where the limbs are about one inch in diameter. While reducing the total area, I would secure a better shaped top, as the trees have grown so high the fruit has been hard to pick. This pruning would probably add several years to their life and help to make larger fruit. I do not want to dehorn to short stubs, but I want to avoid destroying next year's crop. Will this method of pruning do so? —*C. L. W., Pennsylvania.*

THE PRUNING which you suggest for peach trees injured by the past winter's cold is perhaps too severe for the best results. It is suggested, therefore, that in general no larger limbs than two inches in diameter be cut and that these larger cuts be made to side branches about one inch or more in diameter. Of course, all dead and dying limbs should be cut out, regardless of size, but it is necessary to use discretion and judgment in cutting back the injured trees, otherwise, it is possible to stop growth and kill the tree by too severe pruning.

Shortening in of small branches and the cutting of larger ones to side branches may be done without material injury, and if the work is performed properly and carefully, no doubt the trees can be improved and the prospects for a crop next year increased.

Too severe heading back, cutting branches three inches or more in diameter, may induce, even on fairly vigorous trees, a very heavy vegetative growth with the result that no fruit buds would be formed this season for next season's crop, even though it may be a good year for peach production.

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Tractor?

Why does the farmer need this track-type tractor?

To get his work done on time—to go over soft seedbeds without harmful packing—to cross soft spots without miring—to travel through dust and sand. To save power waste through slippage—to work in early or late seasons.

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TEN . . . $1100 TWENTY . $1900
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A Bell System Advertisement

A FARMER who lives near Nashville, Tenn., finds his telephone a highly profitable aid in selling the produce from his eight-acre truck farm. Before every trip to town, he calls up his customers and receives orders for definite kinds and quantities of vegetables, to be delivered at specified times. He also finds out just what produce to hold in reserve for Saturday morning, his best market day. In this way he is able to avoid losses from spoiled vegetables, dispose of all his products and get the highest return that his truck farm has ever yielded.

* * *

The telephone also makes possible many profitable sales of livestock, grain, fruit and vegetables through co-operative marketing associations. It is always ready to run errands, make social engagements and summon help in cases of sickness or accident.

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By Samuel Fraser. This is a standard work and an authoritative guide. It outlines what to do and tells why and when. It is of equal value to the amateur as well as commercial fruit grower. No other book covers the subject as thoroughly and practically.

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Books sent postpaid on receipt of price. Send orders to Book Department

American Fruit Grower Magazine, 53 W. Jackson Blvd., Chicago, Ill.

Penetrol as an Activator for Nicotine

By JOHN L. HOERNER

COLORADO EXPERIMENT STATION

DURING the past several years, a search for more efficient and cheaper methods of controlling insect pests has given investigators in various branches of science a very enticing problem. If one were to size up the situation from some of the advertisements of insecticide companies, it would appear that all our insect problems were solved, but we all know quite the contrary to be true. Some of the control methods that were effective a few years ago appear to be less and less effective as time passes. Even with improvements in control, mankind is hardly more than keeping even with insects which annually take a large toll from his crops.

To one not in close contact with entomological problems, a general spray mixture for all troubles—a cure-all—would seem to be the product to develop. Upon close study of the variables that occur in spraying the many destructive insects, a product that would increase the efficiency of any specific control would be well worth while.

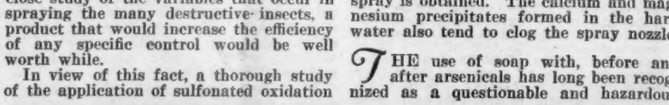
In view of this fact, a thorough study of the application of sulfonated oxidation products of petroleum to the insecticide field has been made during the past five years. As a result of this work, a sulfonated oxidized gas oil has been selected as the one giving the best results as a contact insecticide. The name "Penetrol" has been used to designate this product.

PENETROL is a maroon-colored liquid easily miscible with water. The dilute emulsion will not separate appreciably on long standing. It has a characteristic odor which is not objectionable in either stock or spray.

Thorough study of this product has shown many useful and desirable properties as a nicotine activator. The first uses of nicotine as a contact spray showed the necessity of an activator or a material which would effect a better contact of the nicotine with the insect. Since that time many materials have been tried for this purpose, but soap has been quite generally recommended. Notwithstanding the general recommendation for soap as a nicotine spreader, it is probably true that because of the well-known objections to its use, much less soap is used than is generally supposed. It is easy to understand this omission after one experiences the difficulty of dissolving soap, even in soft water.

In many sections the water available for spray solutions is quite hard, and the handling of the soap is far more troublesome. The solution of soaps in hard water is exceptionally difficult because of the formation of insoluble calcium and magnesium soaps on the surface of the pieces or particles of undissolved commercial soap. Correspondingly large amounts of soap are needed to soften the water before any increased efficiency of spray is obtained. The calcium and magnesium precipitates formed in the hard water also tend to clog the spray nozzle.

THE use of soap with, before and after arsenicals has long been recognized as a questionable and hazardous spray practice, and is generally not recommended by entomologists.



Photograph showing dilutions of Penetrol and soap, one part to 200 parts of water differing in degree of hardness (hard, moderately hard, moderately soft, and distilled water). Penetrol in each case on the left.

Another important factor is the lack of standardization of the soaps commercially available to growers. Soaps are made from a wide variety of vegetable and animal oils which are saponified by many methods. Although the water content is specified, it varies in different soaps from 30 to 70 per cent at the factory and changes appreciably after standing in the open for some time. The causticity of soaps varies considerably. Even if a soap of very definite analysis is recommended, it is a difficult problem for the farmer to specify and obtain the soap he wants.

Penetrol is a free-flowing, easily miscible activator for nicotine. It does away with the agitation of soap in hot water, and the difficulties of solution in hard waters.

A comparison of the compatibility of both Penetrol and soap in water of varying degrees of hardness is shown in the accompanying photograph. The Penetrol was first emulsified in three times its volume of water before the final dilution was made. The soap was dissolved directly in the final volume of hot water. The photograph was taken after the dilutions had stood 10 hours. It will be noted that there is no marked change in any of the Penetrol samples. The soap shows a variation from a clear solution in distilled water to a heavy curdy precipitate in the hard water.

A STUDY of the surface waters of the United States would seem to indicate that the maximum dissolved solids of a water for spray purposes would be somewhere in the range of 1000 to 2000 parts per million. Because of the difficulties in obtaining samples of natural waters, from the various sections of the country, the waters used in the tests were made in the laboratory, and they are considered sufficiently satisfactory for the purpose. The following analysis was used as a basis of what the writer terms a moderately hard water:

Calcium Carbonate	281 p.p.m.
Calcium Sulphate	2 p.p.m.

(To Page 12)

More Money per Bushel for Your Apples with MOUNT GILEAD CIDER PRESSES

A bushel of undergrade apples turned into clear, sparkling cider with a MOUNT GILEAD Press, pays as much as a bushel of selects. Your own orchard will be more profitable and custom work averages about 4 cents per gallon. One grower cleared $1400 in less than two months. Presses from 50 to 4000 gallons or more. Send the Coupon for complete information.

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Gentlemen: You may send me complete information on Mount Gilead Cider Presses and copy of "Orchard Products News," FREE.

Name_____

P.O._____ RFD_____

State_____ No. Trees_____

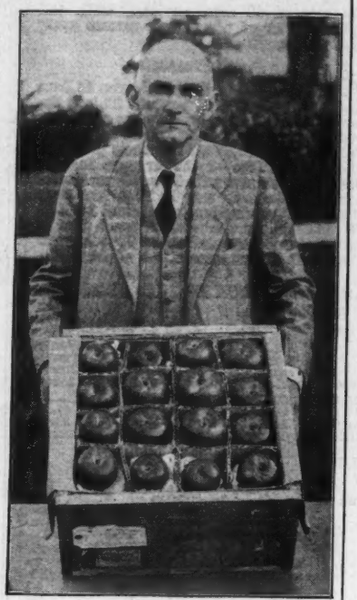
Indiana Apples Make World Tour

TO DETERMINE the keeping quality of Knox county, Indiana, apples, a half bushel box of the fruit was sent around the world by the Simpson Orchard Company, Vincennes. After about nine months of travel, the apples were received at the starting point in practically perfect condition. The apples, which were of the Winesap and Turley varieties, the latter an Indiana product, having been originated in the Purdue experimental orchard, left Vincennes last September for their trip of over 28,000 miles. They first went to Washington, where officials of the Department of Agriculture examined them carefully. Then they went into storage.

Last January, Frank H. Simpson, of Flora, Ill., a cousin of Harry and Robert Simpson of the Simpson Orchard Company, left on a world cruise. He took the apples with him and placed them in the vegetable storage room of the Franconia, which made the trip. The ship sailed January 11 and stopped in Italy, Egypt, India, East Indies, Philippines, Korea, Japan, Hawaii, back to Los Angeles and thence to New York via the Panama Canal and Cuba.

After arrival in New York, the apples were again sent to Washington for examination. They were found to be in wonderful condition, less than a dozen showing any decay. The apples were then sent to Purdue University, where Robert Simpson displayed them to the university officials. He brought them to Vincennes and will turn them over again to the Horticultural Department of Purdue for study. Some of the apples will be sent to other experiment stations and to Canada. One of the apples from this box was sent to the editorial department of AMERICAN FRUIT GROWER MAGAZINE, arriving in perfect condition.

The Simpson family are pioneers in orchard work. The first Simpson orchard was started in 1803. On the Simpson place is the famous mother tree of all the Winesap trees in the orchard. This tree has been photographed and studied by fruit experts from all over the country. It is 44 years old, and Mr. Simpson predicts it is good for another 44 years. This year it is expected the tree will yield 50 bushels. The tree is noted for its regularity in bearing. Two years ago a Grimes Golden tree, which was planted at the same time as the famous Winesap tree, produced the record number of 81 bushels of apples. Several years ago field mice threatened to kill the tree, girdling the roots. Tree surgery saved it, and it is in vigorous condition today.



R. A. Simpson, Vincennes, Ind., and box of apples that traveled between 28,000 and 29,000 miles.

Wooden Barrels for Orchard Products

By LOUIS F. HORN

THE QUESTION of selecting the most suitable and economical container for packing, storing, and exporting orchard products is always an important one and has been accorded much study and investigation in the past several years.

In the packing of apples, for instance, millions of containers are employed each year, some suitable and others more suitable.

Some years after apple growing had assumed commercial importance in the United States, it became necessary and advisable to standardize the shipping container which had proved its value and suitability in the New World as well as in the old. Accordingly, the Standard Barrel Law for fruits and vegetables was enacted by the Congress of the United States. This was the first container to be standardized by federal enactment.

The reasons that brought about this recognition of the wooden barrel for packing apples are still the same, enhanced by such progressive methods and practices as have been made effective by the cooperage industry in co-operation with the apple grower.

The standard apple barrel is the favored container for apples in the so-called barreled apple regions of the middle and eastern sections of the country, where millions are used each season for various good reasons, some of which are:

Protection of Contents: The wooden barrel, in its construction as well as sanitary features, affords perfect protection to apples in transit and storage.

Economy in Packing: It is logically more economical to pack three bushels of apples in one barrel than to pack three separate bushel containers with apples. The returns to the fruit grower are consequently greater.

Economy in Handling: Because of the shape of the barrel, its ease of rolling and up-ending, it is more economical to handle than rectangular or other shaped containers. Just watch the loading or unloading of barrels to or from railroad cars, steamers, trucks, etc.

Economy in Storage: The wooden barrel is peculiarly adapted to the storage of apples. Its sturdiness prevents damage to contents. Barrels filled with apples that have been properly graded and carefully packed "stand up" in storage, and the apples are delivered in perfect condition after the storage period.

In the last few years, difficulties have been encountered in the use of inferior containers for the storage of apples. So much so have apples, in certain instances, deteriorated and spoiled that barrel manufacturers have been called upon in January and February to supply barrels for the transfer in storage of apples from inferior containers.

The use of shredded oil paper prevents "scald" in barreled apples, and this oil paper has been employed extensively in recent years with considerable success.

The wooden barrel has also retained its favor in the export field, where large quantities are used. With the new aggressive competition, however, which has developed from Soviet Russia and which gained force in the past season, extra care in grading and packing should be employed by the American fruit grower if he is to retain his place in the apple trade of European countries.

With the tendency to pack in smaller units, the barrel industry is now engaged in perfecting a bushel container that has the same sturdy qualities of the whole barrel, enhanced by the display advantages of a smaller package.

Other orchard products, such as cider, vinegar, fruit juices, preserves, etc., retain their original flavor, store well and are delivered to the ultimate consumer in perfect condition when packed in tight, wooden barrels.

LET GOOD THINGS GET TOGETHER

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LET good things get together. You have plenty of fresh fruits, rich milk and cream, honey. Enjoy them to the limit. Serve with crunchy-crisp Kellogg's Corn Flakes.

Cereals and milk and fruits make a perfect combination of flavor and healthfulness. Delicious for breakfast or lunch. Ideal for the children's evening meal.

Kellogg's Corn Flakes are the world's most popular ready-to-eat cereal—and a real farm product! It takes a year's bumper crop from about 700 acres of corn to supply one day's demand for Kellogg's.

About 2,500,000 quarts of milk and cream are used daily. And tons of orchard fruits.

Look for the red-and-green package at your grocer's. Oven-fresh in the waxtite inner-seal wrapper. Made by Kellogg in Battle Creek.

We have prepared an attractive pamphlet featuring the use of fruits. Also one on milk and cereals. If you would like a quantity of these pamphlets to distribute, we will gladly send them free on request.

It Does All the Back work, Arm work Leg work of Man and Team

All the arm-tiring, leg-wearying, back-breaking work of tilling the soil is done by the Centaur—the new improved 6-10 h.p. tractor. All the driver has to do is supply the brain work, guiding the tractor and watching the tools.

A little brain work in getting the information on this tractor now will save you a lot of hard work on your farm, truck farm, in orchard, grove or vineyard. It plows, discs, harrows, plants and cultivates, making the small farm a real power farm . . . Send the coupon for complete information on tractor and tools.

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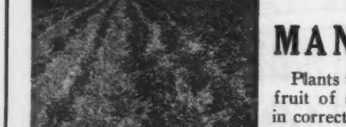

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Power Mower Attachment. Cuts hay, weeds, etc. Also 20-inch Cyl. Type Lawn Mower.

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FREE Catalog

FRUIT and VEGETABLE REVIEW

By PAUL FROEHLICH
U. S. Bureau of Agricultural Economics

SOME OF THE important fruit areas were visited by heavy frosts during May, so that crop prospects were further reduced. In general, the shipping season for eastern fruits has been later than last year but western fruits have been more abundant this season. The peach crop probably will be just about the same as last year's light production, while apples and pears may be slightly above the 1929 figures. All California fruits are showing much higher condition than last season and, with the exception of grapes, appear to be as abundant as in 1928. Apricots show the lowest condition.

Peaches were beginning to move from Georgia in good volume. Southeastern watermelons and those from Texas were delayed, but were becoming a prominent market feature by mid-June. Cantaloupes from Imperial Valley were very abundant during the early part of the season, but California citrus fruit was scarce. Apples had almost disappeared from the list of fruits. Strawberries were nearly finished. Cherries were moving from California at the rate of 40 cars per day, while the daily output of plums and prunes averaged nearly 40 cars.

Peach Prospects

CONDITION of the peach crop in June was only 47% of normal. This is the lowest June report for peaches since the very poor crop of 1921. The forecasted production of 45,443,000 bushels would be about four-fifths of the average for the preceding five years. In 10 southern States together, the crop may be 15% less than their 1929 production, or around 10,000,000 bushels. In the western peach States, production is expected to be 70% heavier than that of last season. A slight reduction in Colorado and sharp reductions in Washington and Utah are more than offset by the expected increase of 97% in California peaches this season.

Six-basket crates of best Uneeda peaches were returning $1.75-$2.50 on a cash basis, according to size of fruit, at Georgia loading stations. Half-bushel baskets were bringing mostly $1.40. Uneeda movement had passed its peak, and Early Rose peaches were starting by June 10. Terminal markets quoted best Uneedas at $3.50-$5 per crate, with Georgia and North Carolina Mayflowers at $4.50-$6 in New York. During the opening week of June shipments from Georgia had increased to 140 cars, California moved 10, and North Carolina and Arkansas one car each. Output was only about half that of a year ago, but gradually increased with maturity of important varieties.

Condition of Apples

APPLES averaged only 57% of normal this June, compared with 67% a year ago and the 10-year average figure of 68%. The only States showing condition of the apple crop 75% or higher are the New England group, and Montana, Wyoming, Utah, California and Oregon. The reports for New York and Idaho were 74%, while Washington crop showed a condition of 71%. In most of the central States a light crop of apples is in prospect. North Atlantic States may have heavier production than last season, but the western group will hardly come up to its 1929 record. The total crop may exceed only slightly the short production of last year.

Shipments of apples from storage had decreased to a daily average of 40 cars, mostly from Washington, New York, and

CONDITION AND PRODUCTION OF APPLES, PEACHES AND PEARS IN THE UNITED STATES

CROP	Condition June 1 10-yr. aver. 1919-28	1929	1930	Production in millions of bushels 5-yr. aver. 1924-28	1928	1929	Indicated by cond. June 1, 1930*
Apples	68.3	66.6	56.8	180.3	186.9	139.3	.....
Peaches	66.1	54.7	47.1	56.8	68.4	46.0	45.4
Pears	66.3	58.5	62.6	21.5	24.2	21.3	22.7

*Indicated production increases or decreases with changing conditions during the season.

PEACHES

State	Condition June 1 10-Yr. aver. 1919-28	1929	1930	Production Harvested, subject to revision in December Average 1924-28	1929	1930, forecast from condition June 1
		Per Cent			1,000 Bushels	
New Hampshire	71	84	86	23	26	32
Massachusetts	67	73	81	160	165	189
Rhode Island	75	77	76	29	25	23
Connecticut	74	72	76	222	177	204
New York	70	71	70	1,988	1,470	1,740
New Jersey	69	91	38	2,234	2,600	1,170
Pennsylvania	59	55	33	1,525	1,157	780
Ohio	54	30	10	1,418	494	234
Indiana	47	72	4	461	726	12
Illinois	48	77	1	1,324	3,600	40
Michigan	60	65	41	871	816	510
Iowa	46	55	24	45	55	20
Missouri	45	62	2	889	1,261	24
Nebraska	39	77	43	35	68	40
Kansas	34	75	11	242	385	42
Delaware	59	91	42	278	378	162
Maryland	58	75	41	471	532	280
Virginia	48	75	15	864	928	160
West Virginia	45	53	15	622	580	162
North Carolina	60	58	42	2,028	1,400	1,428
South Carolina	63	47	54	914	552	850
Georgia	69	40	54	8,198	2,880	5,250
Florida	71	67	61	110	94	90
Kentucky	56	61	9	829	600	105
Tennessee	55	67	28	1,711	1,225	720
Alabama	64	42	56	1,118	504	810
Mississippi	71	59	52	575	444	378
Arkansas	57	71	5	2,386	2,636	84
Louisiana	65	60	50	206	154	134
Oklahoma	45	58	6	846	1,100	100
Texas	52	67	31	1,674	1,953	800
Idaho	49	77	15	180	288	36
Colorado	72	80	68	778	1,000	910
New Mexico	40	46	25	87	94	46
Arizona	58	65	52	63	60	88
Utah	74	75	49	515	542	392
Nevada	51	64	75	5	5	5
Washington	58	63	33	854	1,250	527
Oregon	60	57	58	249	232	232
California	86	42	84	19,793	13,543	26,631
United States	66.1	54.7	47.1	56,321	45,998	45,443

Effect of Manganese Sulfate on Potatoes on Dade County Glade soil. Section on left received no Manganese Sulfate and section on right 50 pounds per acre.

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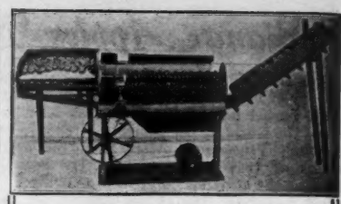

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- - and the IDEAL costs less to own and less to operate than you think it does!

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American Fruit Grower Magazine
53 W. Jackson Blvd. Chicago, Ill.

Virginia. The season total will hardly exceed 100,000 cars.

Commercial cold-storage holdings of apples on June 1 were reported as 94,000 barrels, 798,000 boxes, and 309,000 bushel baskets. Total supplies still under refrigeration were 18% greater than those of a year ago, because of the larger holdings in boxes and baskets. June stocks, however, were about 10% below the five-year average figure for this time of the season. Barreled apples were in 13% lighter supply than in 1929 and were 44% below average. Boxes were about 26% more plentiful than a year ago but were 8% short of the average supply of boxed apples. About three-fifths of all the boxed apples were still held in Pacific Coast storages. Bushel baskets in cold-storage were 40% more abundant than last June and were 94% above the five-year average figure for this month.

Steps have been taken by the Federal Farm Board toward a better organization of the apple industry, particularly in the East, which may improve distribution of this crop.

The Outlook for Pears

BASED on June condition of 63%, the pear crop this year may amount to about 23,000,000 bushels, or 7% more than last season and 6% above the average of the preceding five years. Nearly four-fifths of the total crop is expected to be in the Pacific Coast States and New York. Pear production in central and southern States will be light. California expects at least 9,000,000 bushels and the three States on the Pacific Coast will have larger than average crops. New York also is expected to exceed its five-year average. Colorado and Michigan may have only about half as many pears as last season. Movement of the 1929 crop from storage did not end until June 1.

Citrus Fruits

CONDITION of the Florida grapefruit crop in June averaged 81% of normal, compared with 58 a year ago and a 10-year average of 79%. Limes showed an average condition of 77% and oranges were figured at 80%, or 17 points higher than in June, 1929. Satsuma oranges, however, were not very promising. Tangerines were 78% of normal, as against 56% in 1929. California oranges registered a June condition of 95%, compared with 77 last spring. Lemons at 84% were 11 points higher than a year ago. Grapefruit in California was 96% of normal.

Florida citrus fruits were practically off the market. Light movement of grapefruit was still reported from California and imports from Porto Rico averaged 10 cars daily during mid-June. About 2500 carloads of grapefruit have come from Porto Rico this season, compared with 450 last season. California orange shipments still averaged about 130 cars each day, but the supply of this fruit was less than half that of June, 1929. Market prices were high. Best grade California oranges were ranging $6.50-$10 per box on the New York auction, with best California lemons at $6.50-$8.50. Grapefruit showed a very wide range of prices, according to quality and condition.

A recent news item in the daily press said:

"The California citrus fruit industry, last season, established an outstanding merchandising record in the successful disposal of the gigantic orange and lemon crop, which was 50% larger than the previous season and 33% greater than that of any other year in the history of the industry. From a total movement of 88,010 carloads, California growers received a return of nearly $120,000,000."

(*To Page 14*)

APPLES

State	Condition June 1: 10-Yr. aver. 1919-28 P. Ct.	1929 P. Ct.	1930 P. Ct.	Condition June 1: 10-Yr. aver. 1919-28 P. Ct.	1929 P. Ct.	1930 P. Ct.	Production: Harvested, subject to revision in Dec. Aver. 1924-1928 1000 Bus.	1929 1000 Bus.	1930 forecast from cond. June 1 1000 Bus.
Maine	85	91	92	86	84	83	11	13	10
New Hampshire	87	77	93	88	87	88	14	15	14
Vermont	88	90	87	87	82	79	10	12	9
Massachusetts	85	74	91	83	75	83	74	74	74
Rhode Island	83	83	86	83	80	83	11	11	10
Connecticut	83	74	88	83	74	88	55	52	65
New York	77	79	74	78	52	81	2,181	1,152	2,304
New Jersey	73	67	72	64	63	45	541	338	310
Pennsylvania	70	57	58	64	50	58	573	272	468
Ohio	64	44	26	58	35	27	351	175	130
Indiana	61	64	36	53	60	29	229	209	108
Illinois	63	60	44	55	62	38	542	711	378
Michigan	72	78	57	72	50	58	734	468	564
Wisconsin	82	82	63	....	....	....	....	....	....
Minnesota	81	81	59	....	....	....	....	....	....
Iowa	72	79	58	58	60	46	48	52	34
Missouri	57	65	38	48	60	30	326	445	165
South Dakota	77	70	66	....	....	....	....	....	....
Nebraska	61	80	56	56	75	48	25	40	24
Kansas	56	75	35	46	65	36	184	234	108
Delaware	63	64	60	47	62	20	226	248	75
Maryland	61	61	50	56	64	43	279	254	184
Virginia	51	57	34	42	57	15	267	330	75
West Virginia	50	48	40	36	36	14	59	49	17
North Carolina	58	51	39	47	49	35	207	205	126
South Carolina	62	44	54	60	46	47	107	104	85
Georgia	61	43	56	58	44	52	199	174	139
Florida	....	....	....	56	68	58	54	51	46
Kentucky	56	50	28	46	62	19	99	129	31
Tennessee	53	50	38	44	55	31	209	242	124
Alabama	58	42	53	59	42	53	182	142	160
Mississippi	60	53	46	60	54	57	176	132	162
Arkansas	57	53	48	52	59	33	100	104	42
Louisiana	57	50	50	62	65	47	66	59	44
Oklahoma	57	58	31	43	63	22	133	190	72
Texas	58	65	38	56	75	42	437	455	325
Montana	83	85	76	....	....	....	....	....	....
Idaho	78	87	74	74	78	76	59	53	64
Wyoming	86	90	76	....	....	....	....	....	....
Colorado	80	79	32	85	82	45	458	650	301
New Mexico	63	63	47	49	59	40	36	63	31
Arizona	60	65	70	61	72	69	13	16	15
Utah	85	75	82	80	80	74	64	70	72
Nevada	72	80	53	68	73	56	5	3	4
Washington	81	76	71	69	66	75	2,528	2,800	3,393
Oregon	81	79	85	75	67	85	1,885	2,650	3,200
California	73	59	76	74	55	77	7,721	7,751	9,101
United States	68.3	66.6	56.8	66.3	58.5	62.6	21,484	21,197	22,703

PEARS

State	Condition June 1: 10-Yr. aver. 1919-28 P. Ct.	1929 P. Ct.	1930 P. Ct.	Production: Harvested, subject to revision in Dec. Aver. 1924-1928 1000 Bus.	1929 1000 Bus.	1930 forecast from cond. June 1 1000 Bus.
Maine	84	83	83	11	13	10
New Hampshire	87	88	88	14	15	14
Vermont	82	79	79	10	12	9
Massachusetts	75	83	74	74	74	74
Rhode Island	80	83	83	11	11	10
Connecticut	74	88	88	55	52	65
New York	52	81	81	2,181	1,152	2,304
New Jersey	63	45	45	541	338	310
Pennsylvania	50	58	58	573	272	468
Ohio	35	27	27	351	175	130
Indiana	60	29	29	229	209	108
Illinois	62	38	38	542	711	378
Michigan	50	58	58	734	468	564
Wisconsin	....	....	....	....	....	....
Minnesota	....	....	....	....	....	....
Iowa	60	46	46	48	52	34
Missouri	60	30	30	326	445	165
South Dakota	....	....	....	....	....	....
Nebraska	75	48	48	25	40	24
Kansas	65	36	36	184	234	108
Delaware	62	20	20	226	248	75
Maryland	64	43	43	279	254	184
Virginia	57	15	15	267	330	75
West Virginia	36	14	14	59	49	17
North Carolina	49	35	35	207	205	126
South Carolina	46	47	47	107	104	85
Georgia	44	52	52	199	174	139
Florida	68	58	58	54	51	46
Kentucky	62	19	19	99	129	31
Tennessee	55	31	31	209	242	124
Alabama	42	53	53	182	142	160
Mississippi	54	57	57	176	132	162
Arkansas	59	33	33	100	104	42
Louisiana	65	47	47	66	59	44
Oklahoma	63	22	22	133	190	72
Texas	75	42	42	437	455	325
Montana	....	....	....	....	....	....
Idaho	78	76	76	59	53	64
Wyoming	....	....	....	....	....	....
Colorado	82	45	45	458	650	301
New Mexico	59	40	40	36	63	31
Arizona	72	69	69	13	16	15
Utah	80	74	74	64	70	72
Nevada	73	56	56	5	3	4
Washington	66	75	75	2,528	2,800	3,393
Oregon	67	85	85	1,885	2,650	3,200
California	55	77	77	7,721	7,751	9,101
United States	58.5	62.6	62.6	21,484	21,197	22,703

*CITRUS**

Crop and State	Production: 1928 1,000 Boxes	1929 1,000 Boxes	Condition June 1: 1928 P. ct.	1929 P. ct.	1930 Crop: May 1 P. ct.	June 1 P. ct.
Oranges:						
California all	38,705	25,000	95	77	94	95
Navels	.....	.....	95	77	95	95
Valencias	.....	.....	95	77	93	95
Florida	15,000	9,500	80	63	90	80
Louisiana	220	187	....	....	....	....
Texas	68	128	....	91	69	61
Arizona	99	104	....	88	95	92
Alabama	38	212	....	....	....	....
Mississippi	.....	8	....	....	....	....
Satsuma:						
Florida	.....	.....	65	75	60	48
Tangerines:†						
Florida	.....	.....	81	56	88	78
Grapefruit:						
Florida	10,500	6,500	76	53	89	81
Texas	773	1,276	....	90	54	51
Arizona	211	243	....	91	94	90
California	972	1,300	....	84	....	96
Limes:						
Florida	6	7	71	63	80	77
Lemons:						
California	7,900	5,900	87	73	84	84

*The estimates of citrus production include all fruit actually picked, however utilized. The figures relate to the crop produced from the bloom of the year shown. In California the season is considered as beginning November 1, picking continuing throughout the following season until October 31 of the following year, fruit not picked until after October 31 being included with the crop of the following year. In other States the season begins September 1. The estimates make allowance for average losses from storms and freezing between December 1 and the end of the season.

†Tangerine production included in orange production.

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WHEN the day's work is done and you drive to town to the movies, to see friends or shop, you get there quicker and easier with Ethyl in your tank. That is because Ethyl Gasoline is gasoline *plus*. It is good gasoline to which leading oil companies are adding Ethyl fluid, the anti-knock compound developed by General Motors Research Laboratories to improve motor car performance.

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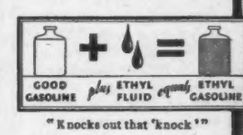
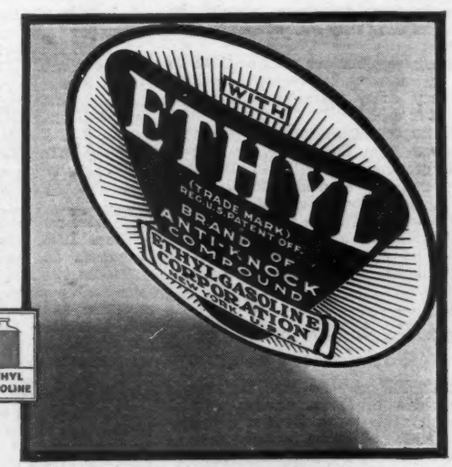
Give Ethyl a trial in all your motor equipment. It will save you time, labor and expense. Ethyl Gasoline Corporation, Chrysler Building, New York City.

Wherever you drive—whatever the oil company's name or brand associated with it—*any* pump bearing the Ethyl emblem represents quality gasoline of anti-knock rating sufficiently high to "knock out that 'knock'" in motors of ordinary compression and to develop the additional power of the new high-compression motors.



"Knocks out that 'knock'"



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KEVIL KENTUCKY KENNEL, KEVIL, Kentucky. Hunter Friends: Coon dogs, first class, still trailers, young dogs. Long trial and money back guarantee. Write free price list.

FOXHOUNDS, COONHOUNDS, RABBITHOUNDS, Blueticks, Redbones, Blacktans. Supply Catalogue, Kaskaskia, E-39, Herrick, Ill.

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FOR SALE: Thomas Albright hydraulic apple press very reasonable. South Haven Fruit Exchange, South Haven, Mich.

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ORCHARD, 3000 APPLE TREES, 160 ACRES. Some timber. Good buildings with modern conveniences. Close to town of Bedford. Pa. Adjoins lands of Bedford Springs Hotel. Send for illustrated folder. Box 553, Windber, Pa.

BEARING APPLE ORCHARD. First-class condition. Crop on trees around seven thousand bushels. Farm land adjoining. One hundred seventy acres in all. Buildings, timber, water. Price low, terms reasonable. Friendly Fruit Farms, Clearville, Penna.

FOR SALE — ORCHARD, 88 acres and 3,000 good bearing apple trees including Stark's Delicious, Golden Delicious, Winesap, Jonathan, Rome Beauty varieties; also few peach and cherry trees; all 8 to 20 years old. Frank Van Ness, Tuxedo, North Carolina.

FARMS WANTED

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FARMS WANTED—Continued

WANTED — HEAR FROM OWNER HAVING good farm for sale. Cash price, particulars. John J. Black, Chippewa Falls, Wis.

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MAKE BIG MONEY WITH CHINCHILLA Rabbits. Real Money Makers. Write for facts. 846 Conrad's Ranch, Denver, Colorado.

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RAILWAY POSTAL CLERKS. $158.00-$225.00 month. Steady work. Common education sufficient. Men 18 to 35. 25 coached free. Write immediately. Franklin Institute, Dept. M-69, Rochester, N. Y.

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PATENTS—Time counts in applying for patents. Send sketch or model for instructions or write for free book. "How to Obtain a Patent," and "Record of Invention" form. No charge for information on how to proceed. Clarence A. O'Brien, Registered Patent Attorney, 496-B, Security Savings and Commercial Bank Building, Washington, D. C.

PLANTS

NORTHERN GROWN CABBAGE PLANTS — Good delivery guaranteed. Moss packed. Golden Acre, Copenhagen, Savoy, Glory, Flat Dutch, Danish Ballhead, and Red Rock. 1,000, $1.25; 5,000, $5.00. Limited supply of Penn State Ballhead at 25c per thousand additional. Buckeye Farms, Dept. HH, Box 541, Youngstown, Ohio.

POULTRY

WHITE LEGHORN HENS AND MALES NOW HALF price. Thousands of eight-week-old pullets. Also baby chicks and eggs. Trapnested, pedigreed foundation stock, egg bred 30 years. Winners at 20 egg contests. Records to 320 eggs. Catalog and special price bulletin free. I ship C.O.D. George B. Ferris, 922 Union, Grand Rapids, Mich.

TOBACCO

BETTER TOBACCO—GOLDEN YELLOW SMOKING, 5 pounds, $1.00. Rich red chewing, 5 pounds, $1.50. Clark's River Plantation, 42, Hazel, Ky.

Tomatoes Need Extra Fertilizer

EXPERIMENTS under way at the New York State Experiment Station at Geneva show that tomatoes need an extra supply of nitrogen from some readily available source just as the first clusters begin to set if maximum yields are to be obtained, says C. B. Sayre, canning crops specialist at the station. Even where liberal applications of fertilizers have been made at time of planting, marked increases in yield have followed light applications of sodium nitrate or ammonium sulphate as a side dressing just as the plants begin to set fruit, says Mr. Sayre.

Applications of nitrate of soda at the rate of 100 pounds per acre or ammonium sulphate at the rate of 75 pounds per acre have given excellent results in tests at the experiment station. Larger amounts up to 150 pounds of nitrate or 115 pounds of ammonium sulphate may be used with safety, but excessive applications of these quickly acting fertilizers should be avoided as they may over-stimulate vine growth.

Moderate applications such as these do not delay maturity, but excessive applications may delay maturity and reduce yields, it is said.

It is important that the fertilizer be kept away from the plants, as contact with the growing plant will result in severe burning and may even kill the vines. If possible, the material should be mixed with the soil around the plant. A second side dressing just as the tomatoes begin to color up may give good results, although this has not been tried in the station tests.

Frozen-Pack Berries Make Satisfactory Preserves

BERRIES may be kept for several months in frozen storage without decreasing their value for the manufacture of jams and jellies, investigations of the United States Department of Agriculture have shown. The texture and color of strawberries in preserves is actually improved by frozen storage prior to preserving when the fresh fruit is packed with sufficient sugar.

The purpose of the investigational work, which extended over a period of three years, was to examine thoroughly the different phases of the barreling and the freezing of berries and to determine, if possible, the best practical procedure for packing and handling fruit by the frozen-pack method. A full account of the investigations, including discussion of the various experiments involved, is contained in United States Department of Agriculture Technical Bulletin 148-T, "The Frozen-Pack Method of Preserving Berries in the Pacific Northwest," copies of which may be obtained from the Office of Information, Department of Agriculture, Washington, D. C.

Philadelphia Consumes Million Oranges Daily

AT THE RATE of 1,000,000 a day, Philadelphia hung up a new orange eating and drinking record in 1929, which is quite some record when it is pointed out that the consumption last year was nearly 2000 carloads greater than in 1928. The greatest number of cars unloaded in the Philadelphia markets in any previous year was 4317 in 1924.

A detailed report issued by the Philadelphia Market News Service of the United States Department of Agriculture shows carlot shipments in 1929 were 5415 (approximately 340,000,000 oranges) against 3449 in the previous year.

The grapefruit fans did pretty well with 1185 carloads against 902 in 1928. However, the record year for grapefruit in Philadelphia was 1924 when 1195 carloads were consumed.

These 1929 figures for oranges and grapefruit do not include 818 cars in which the two fruits were shipped mixed. Considering these, the per capita consumption in the Philadelphia territory was about 120 for oranges and 14 for grapefruit. In addition, 290 carloads of tangerines were sold in Philadelphia markets.

Oranges led all other fruits in carlot shipments, 60 per cent, or more than 3000 of them coming from Florida. All of the tangerines and all of the 13 cars of grapefruit came from the same State.

A Scot, seeing a sixpence lying in the road, rushed forth to secure it, with the result that he was run over and killed. The jury brought in a verdict of, "Death from natural causes."

Penetrol as an Activator for Nicotine

(*From Page Eight*)

Magnesium Sulphate	501 p.p.m.
Sodium Sulphate	26 p.p.m.
Sodium Chloride	25 p.p.m.
Total dissolved solids	835 p.p.m.

The following water samples were prepared in the above proportions:

	Total dissolved solids
1. Hard water	1670 p.p.m.
2. Moderately hard water	835 p.p.m.
3. Moderately soft water	415 p.p.m.
4. Distilled water	0 p.p.m.

The soap used was commercial potassium fish-oil soap containing 30 per cent water.

NO BURNING to foliage has resulted in any of the laboratory and field tests made with Penetrol-arsenical sprays. In these tests lead arsenate, Paris green, calcium and lead arsenate have been used with Penetrol diluted at the rate of 0.5 per cent.

A number of different tests have shown Penetrol to be compatible with Bordeaux. Although soap is used with Bordeaux in some places, it makes an illogical spray mixture because of the insoluble calcium soap formed which may clog the nozzle and counteract the very spreading properties that are needed.

PENETROL is a definite standardized homogeneous chemical product. The following table is one of many obtained in the course of the writer's work, showing its comparison with soap as a nicotine activator:

COMPARATIVE RESULTS OBTAINED BY SPRAYING PENETROL-NICOTINE AND SOAP-NICOTINE COMBINATIONS ON *Macrosiphum* SP. ON *Helenium* SP. TEMPERATURE AT TIME OF SPRAYING 75. RELATIVE HUMIDITY 51.

Materials Used	Counted Insects	% Dead 2 Days
Penetrol 1-200 Nicotine 40% 1-800	231	98
Fish Oil Soap 1-200 Nicotine 40% 1-800	184	98
Penetrol 1-400 Nicotine 40% 1-800	198	97
Fish Oil Soap 1-400 Nicotine 40% 1-800	172	96
Penetrol 1-200 Nicotine 40% 1-4000	409	92
Fish Oil Soap 1-200 Nicotine 40% 1-4000	236	75
Penetrol 1-200 Nicotine sulphate (40% Nicotine) 1-800	167	98
Fish Oil Soap 1-200 Nicotine sulphate (40% Nicotine) 1-800	203	87
Untreated check	400	1

In the above table the *Macrosiphum* was selected as an aphid that is more resistant to insecticides.

The following data show typical activation results. The weaker dilutions were selected to illustrate the activation principle:

CHRYSANTHEMUM APHIS, *Macrosiphonella sanborni* GILL

Materials used	No. of Counted Aphids	% Dead 2 Days
Untreated check	463	0
Penetrol 1-400 Nicotine 50% 1-10,000	387	87
Fish Oil Soap 1-400 Nicotine 50% 1-10,000	173	14

GREEN PEACH APHIS, *Myzus persicae* SALZ

Untreated check	93	0
Penetrol 1-400 Nicotine 50% 1-10,000	154	89
Fish Oil Soap 1-400 Nicotine 50% 1-10,000	134	4

CITRUS APHIS, *Aphis spiraecola* PATCH

Untreated check	517	1
Penetrol 1-400 Nicotine 50% 1-10,000	476	99
Fish Oil Soap 1-400 Nicotine 50% 1-10,000	289	89

The use of Penetrol as an activator for nicotine has given consistently better results than potassium fish-oil soap on all the 26 species of aphids tested.

World Economists to Meet at Cornell

REPRESENTATIVES from 15 foreign countries and the United States are expected to attend the international conference of agricultural economists at Cornell University, August 18 to 29.

The first conference was held at Dartington Hall, Devon, England, in 1929, and was attended by representatives from 12 countries, including about 15 persons from Canada and the United States. This group requested the Cornell representatives to organize a similar conference at Ithaca this year. The Ministry of Agriculture in England has already provided eight traveling fellowships for the 1930 conference, and promises other representatives from England and Scotland.

Index to Advertisements

The concerns whose advertisements appear listed below are equipped to give prompt and satisfactory service to the American fruit grower. Most of them issue literature that is freely at the disposal of our subscribers. It is to the advantage of all that when writing to an advertiser you use the address exactly as it appears in the advertisement, and that you state in your letter: "I read Your Advertisement in AMERICAN FRUIT GROWER MAGAZINE."

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Caterpillar Tractor Co. 7
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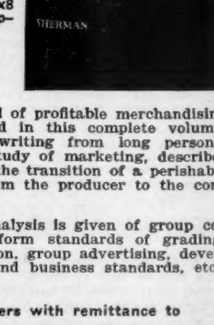
Modern methods of marketing perishable farm products—

Here is a practical working manual for the farmer, commission merchant, wholesaler and retailer. It covers the latest experiences of every fruit marketing unit in the country.

MERCHANDISING FRUITS AND VEGETABLES

By Wells A. Sherman

Principal Marketing Specialist, Bureau of Agricultural Economics, U. S. Department of Agriculture, in charge of Fruit and Vegetable Division.



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postpaid

EVERY detail of profitable merchandising is described in this complete volume. The author, writing from long personal contact and study of marketing, describes every unit in the transition of a perishable commodity from the producer to the consumer.

A careful analysis is given of group co-operation, uniform standards of grading, closer inspection, group advertising, development of sound business standards, etc., etc.

Send orders with remittance to

American Fruit Grower Magazine

53 West Jackson Boulevard
CHICAGO

They Sell $12,000,000 Worth of Fruits and Vegetables

(From Page Five)

fruit production. About 30 per cent of its fruit is grown in Berrien county, in which Benton Harbor is situated, yet only some 25 per cent of that county's area is now devoted to fruit production. Other localities up and down the west coast of the State are also planted heavily to fruit. Much of this entire west coast fruit territory is within easy trucking distance of Benton Harbor, making this marketing point about the hub of the fruit kingdom.

Long Marketing Season

SECRETARY POUND points out another interesting feature of this industry. "This territory is peculiar in one phase of fruit growing," he says. "We are not growers of one or two fruits only, but here are produced in commercial quantities all the fruits grown in this northern climate. Frequently localities settle down to one kind or even one variety of a certain fruit, and grow it in abundance, but our west Michigan growers produce an abundance of them all. Therefore our market starts in early summer with strawberries and runs right through to late fall when the last of the apples have been sold."

Raspberries, blackberries, dewberries, currants, all are produced here and marketed profusely, supplying many middle western localities. Hearts of Gold cantaloupes were originated near Benton Harbor and are a large item in the business of the market. This variety is famous for its high sugar content. The State Department of Agriculture makes daily tests of sugar content of cantaloupes offered for sale and to a degree prices are based on test. Peaches, plums, apples, cherries, pears, grapes—all the fruits and all the garden products of the season, go through this sales place in heavy tonnage.

Even the long ridiculed Keiffer pear has found its place in the sun. One cannery bought 185,000 bushels of them last fall at prices that make them attractive where they once were mostly a nuisance.

All-Around Benefit

THIS market is owned and conducted by the city of Benton Harbor and paid for out of the funds of the city raised by taxation. Its purpose is to benefit the farmers of surrounding territory. Naturally, there is a large reciprocal benefit. The transfer of $8,000,000 and more cash, day by day throughout five to six months of the year, to the pockets of farmers who bring their products to Benton Harbor to sell, is profitably reflected in the retail business of the town. Much fruit comes from points more distant than the ordinary trading radius.

Merchants in towns 20 to 50 miles away have felt loss of trade which ordinarily would have been theirs, but which in part was diverted to the marketing center. Several towns have tried to develop similar markets. However, the buyers keep on going where they have been getting what they want, and the growers continue to haul their fruit to where the most buyers congregate. Benton Harbor fruit prices are higher, consistently, than in the great consuming center of Chicago, 100 miles away.

Reporters and Inspectors Always Present

EARLY in the season a corps of federal and State observers and reporters assemble in Benton Harbor and settle down for the season. They do a complete job of news reporting of the market-quality, quality, prices, prospects, and movements of Michigan fruit. The industry, from grower to distributor and consumer, is constantly conscious of the influence of this great market on the price and movement of fruit throughout the country.

Some buyers maintain simple office headquarters near the market. The Michigan State Department of Agriculture has offices nearby, with inspectors on the job all the time, watching grade and pack, and advising and educating growers on better marketing practices. These men are the great stabilizing and steadying factor in the market. They have done a most thorough job of educating growers on what constitutes good grading and packing, and what the State law requires before a pack may be sold as Grade A or B. It is only on rare occasions now that they invoke the power of the law to compel observance of the grading laws. There is but little violation of the requirements. In turn, the department is in position to establish the grade of shipments which certain types of dealers are wont to refuse at some distant point on the plea it is not up to standard. Maybe the market has broken meanwhile and the buyer is looking for an easy way to get the fruit at salvage price. The State inspection system works both ways for fair dealing.

Large and Small Buyers

SO far, this market has been free and open to all comers. There is a possibility of a small charge to patrons to help carry the new expenditure of $65,000 plus street paving which the taxpayers are putting into the new market. There is a small fee for brokers, possibly $10 a year or 50 cents a day for the occasional buyer, the object being to maintain a degree of control over the type of buyer who may operate there.

All sorts of fruit buyers and dealers congregate there. One operator bought around $750,000 worth of fruit last year. Others may buy only a truckload of apples or grapes, for personal use, or for neighbors or resale. It is the small buyer who has solved the grower's problem of disposing of second grade fruits, as well as furnishing stiff competition in the general bidding. There are large quantities of fruit which are over-ripe from long hauling, undersized or otherwise out of the reckoning for Grade A and for long hauling, yet are first class and wholesome for nearby consumption and for trade seeking a bargain in canning fruits. In the old days disposal of this sort of product in quantity was impossible at prices which would pay for handling. However, the small buyer, folks from points fairly nearby, peddlers on their own account, small grocers with their own trucks, bid for this fruit and it all is sold. For their uses, Grade B or less may be as good as Grade A. It can be bought for less and finds a ready sale.

Simple Selling System

ON a bright autumn day I spent some time watching the very simple functioning of this selling system which handles such a tremendous tonnage of farm products in so nearly a direct route between grower and consumer. The products being sold were grapes, apples, tomatoes, and the last of a wonderful peach crop. There was no elaborate equipment, but just an open space for trucks to line up and for other trucks to back alongside to transfer the packages to the vehicle of the buyer.

Car shipments cut less figure now. Instead of express trains alone hauling the fruit away, supplemented by some lake boats, you see great fleets of trucks piled high with packages of fruit, drumming along through the night to Chicago, Indianapolis and a hundred cities and towns all through the upper Mississippi Valley. They place on tomorrow's dinner tables of the Central West the zestful products of Michigan's trees and vines, just one day from orchard or vineyard.

"Yesterday afternoon's sales at the Benton Harbor farmers' cash market comprised approximately 5000 packages, consisting of peaches, apples, plums, grapes, tomatoes, peppers and beans. The market opened brisk and demand continued good throughout excepting on tomatoes, for which demand was full." This is a typical opening statement of the radio market report on the air every morning during the season. It is followed by detailed quotations on A and B grades of the different kinds and varieties of fruits and vegetables then offered. Report is given of the sugar content of cantaloupes and grapes. Possibly a suggestion is made that this is the height of the peach season and housewives likely will find no more advantageous time for canning and preserving. A line of credit is added for the Benton Harbor Chamber of Commerce which sponsors the reports and the Michigan Department of Agriculture which actually does the reporting.

APPLES PACKED IN WOODEN BARRELS WILL SATISFY YOUR CUSTOMERS

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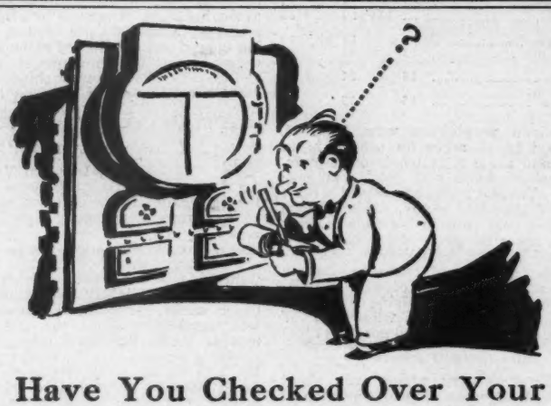

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If it isn't operating efficiently, it is causing costly fluctuations in temperature, a waste of fuel and a loss of money. Perfect drainage is what you need...and the Morehead system *insures* perfect drainage.

It drains condensation and returns it to boilers as feed water.

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MOREHEAD MANUFACTURING COMPANY
DEPARTMENT AP - - - DETROIT, MICHIGAN

Morehead Back to Boiler SYSTEM

(3468)

Fruit and Vegetable Review

(From Page 11)

Other California Fruits

CHERRIES in California averaged 59% of normal, apricots 57%, plums 82%, and prunes 77%. All classes of California grapes were in better position than last season and averaged 88%, as against 71% in June, 1929, and 98% two years ago. Clingstone peaches showed the greatest contrast to condition of a year ago—84% compared with 34%. Freestone peaches also registered 84%, or 27 points higher than in 1929.

South American Consumption

AN EDITORIAL in a western farm journal says: "Clutch your California pride, for here comes the statement that Chile eats more fresh fruit than this State does. This was noticed during a trip to South America last fall. The Chilean Government boosts the idea of fruit in the diet and suggests ways of serving fruit. For instance, fresh peaches are peeled and served on cracked ice, to be eaten with a knife and fork. Thus either freestone or cling peaches can be used. Lots of plums are used, and are an important part in fruit cocktails of which the Chilean people are very fond. A favorite way to serve an orange is to peel it and bring it in whole on a plate, with a sharp knife and fork to manage it with. Various fruits are served with a jacket of chocolate candy. This is done by dipping cold fruit in hot fudge. Fruit in Chile takes the place of pastries. * * * When we hear of eight different nations advertising the use of fruits to German consumers, and our own country contributing none of those advertising campaigns, isn't it time for us folks who 'invented' advertising to wake up and get busy?"

Strawberries Finished

THE strawberry season was about ended. Because of poor condition of beds in many producing areas and because of drought, the carlot forwardings this year were but little more than half those of the 1929 season—or around 11,000 cars. Additional quantities, of course, moved by motor truck. Toward the end of the Eastern Shore berry movement, auction sales of 32 quart crates were bringing the growers $4-$7 according to variety. Jobbing sales on a quart basis in city markets were mostly at 15c-28c in early June. Northern and far western States had become the main source of supply.

Production of strawberries in nine intermediate States was estimated at 80,000,000 quarts, or about one-fifth less than their combined 1929 crop. Missouri was particularly short. The crop in 10 late shipping States appeared to be better than production in the earlier areas, and was forecast at 74,558,000 quarts, or only 3% less than last season. Michigan expected one-third more berries than in 1929, but the crop in the Pacific Northwest was somewhat lighter than that of last year. The total United States strawberry crop of 280,000,000 quarts was about 17% less than the 1929 outturn. Prices were relatively high throughout the season.

CHERRIES

State	Production 1928 Tons	Production 1929 Tons	Condition June 1 1928 P. ct.	Condition June 1 1929 P. ct.	1930 Crop May 1 P. ct.	1930 Crop June 1 P. ct.
New York	8,409	12,734	70	62	86	75
Sweet	.....	.....	53	61	81	64
Sour	.....	.....	72	62	86	77
Ohio*	.....	.....	....	....	47	38
Michigan	20,000	15,000	76	67	....	41
Wisconsin	9,500	4,375	....	68	....	68
Montana	120	260	....	79	....	78
Idaho	4,100	4,000	....	86	....	80
Colorado	1,500	4,500	20	76	....	60
Utah	4,600	4,000	74	73	80	55
Washington	8,500	7,500	60	71	....	59
Oregon	11,500	8,400	....	60	....	60
California	18,500	16,600	62	50	62	59

*Estimates not available.

MISCELLANEOUS FRUITS

Crop and State	Condition June 1 1928	1929	1930
Prunes for drying:			
Washington	....	76	50
Oregon	....	75	49
California	71	42	77
Prunes (for use fresh):			
Idaho	....	93	70
Arizona	....	....	37
Washington	72	84	59
Oregon	....	80	55
Plums:			
Michigan	63	54	50
California	83	48	82
Grapes:			
Florida	85	81	78
Pineapples:			
Florida	65	75	56

COMMERCIAL STRAWBERRY CROP

Crop and State	June 1, 1930 P. ct.	May 1, 1930 P. ct.	June 1, 1929 P. ct.	10-yr. aver. June 1, '19-'28 P. ct.
California	78	....	90	....
Delaware	60	81	88	83*
Illinois	55	62	71	....
Indiana	58	....	92	76
Iowa	72	....	72	79
Kansas	50	76	90	73
Kentucky	....	95	....	....
Maryland	72	78	90	84*
Michigan	84	....	92	76
Missouri	53	55	69	....
New Jersey	76	83	88	82
New York	94	....	90	84
Ohio	82	....	80	82
Oklahoma	....	80	....	....
Oregon	72	....	92	82
Pennsylvania	83	....	90	85
Utah	69	84	....	....
Washington	72	....	77	82
Wisconsin	80	....	90	79
Average	70	72	83	82

*6-year average.

Melon Season Active

ALTHOUGH watermelon movement began later than last season and shipments from Florida were lighter, other southeastern States had become active; Texas was shipping many melons, and California was supplying western markets. The southeastern crop in general was expected to be heavy, as acreage was slightly increased over last year, instead of being decreased, in the most important sections. By July 4 the shipments of watermelons were expected to be at their height. Late shipping States reported intentions of a 25% increase over last year's acreage. Missouri growers particularly planned a sharp increase. As usual, prices in Florida started at a high level, but a gradual decline occurred with the increasing output. By June 12, melons averaging 24 to 30 pounds in weight, were returning $325-$500 per carload at Florida points, and small-sized melons brought only $15 per ton in Imperial Valley of California. Florida was shipping about 100 cars daily, and California half that number. Condition of the melon crop in seven States was only 73% of normal.

Cantaloupes Abundant

BY MID-JUNE, Imperial Valley had forwarded about 9500 cars of cantaloupes, or nearly twice as many as the year before. Movement was exceptionally heavy during the forepart of the present season. On many days, 300 to 350 cars were forwarded. Field troubles were expected to reduce total Imperial Valley shipments slightly below the original expectations, but a second important peak was developing about the 20th of the month. Prices fluctuated considerably at shipping points, and the cash-track market was rather weak during early June at $1.10-$1.40 per standard crate of 45 melons. Condition of the Imperial Valley crop in June had declined to 65% of normal, but cantaloupes in other parts of California showed a condition of 86%, and the Arizona crop was reported at 85%.

Vegetables Plentiful

A GLANCE over the list of vegetables shows that cabbage has been almost the only crop in lighter supply than last season. Growers each year seem to go in more heavily for truck crops, and the demand for fresh vegetables is apparently increasing. A few products, such as spinach, cauliflower, and green peas, had about finished their spring season, so far as carlot movement is concerned, but most other vegetables were still moving actively to market. Local or home-grown supplies increase in importance from now until fall. Potatoes were still in a fairly firm position, but prices of most vegetables were moderate.

Eastern Potatoes Prominent

NORTH CAROLINA was holding attention of the potato trade in the East, and Oklahoma and Arkansas in the Middle West. Heavy rains over June 8 hindered digging and hauling of potatoes in North Carolina, so that shipments temporarily decreased and prices of eastern stock advanced. However, a downward price-trend was again prevailing. Consumptive demand has been active for best stock. F.o.b. prices were around $4.50 per barrel of eastern Cobblers or $2.50 per 100-pound sack of midwestern Triumphs. The Virginia season was getting under way, and Kansas and Missouri were soon to begin shipping. Old potatoes had become almost negligible on the market, and new-stock movement had increased to 750 or 800 cars daily. The June report on commercial early potatoes in 18 States together showed an average condition of 79%, which was three points higher than a year ago and just about equal to the 10-year average figure. New Jersey crop appeared to be in very good condition, but other eastern States averaged rather low. The Middle West reported relatively high condition. Production in nine early States outside of Florida and the lower valley of Texas is now forecast at 20,601,000 bushels, or only 760,000 less than last season. North Carolina and Virginia are expected to fall short of their 1929 record. All of the nine second-early States except Maryland and Tennessee anticipate larger crops than last year. Both acreage and yield per acre will show larger figures in this group as a whole than in 1929. New Jersey, Kansas, Missouri and Oklahoma show the greatest gains in production. The group may have 12,548,000 bushels, compared with 10,964,000 last season, which means abundant supplies for the next month.

Tomato Price Decline

UNDER the heavy movement of midwestern tomatoes—sometimes averaging 400 carloads daily including the last of the Florida crop—f.o.b. prices in central Mississippi had declined to 70c per four-basket crate, and eastern Texas shippers were getting only $1.35 per lug box. Heavy supplies were coming from those two sections. Mississippi expected 1,685,000 bushels, or only slightly more than in 1929, but eastern Texas looked for a very large crop of 2,116,000 bushels. South Carolina, Louisiana, and Georgia together expected a 40% increase over last year, or 538,000 bushels. The total production in this group was estimated to be 30% greater than that of 1929. Plantings of tomatoes in the intermediate States show a 13% increase, and late States an 11% increase, over last year's acreage. The season had already opened in Arkansas, and Tennessee tomatoes were expected to begin moving during late June. Condition of this crop in 14 States averaged 72% of normal, or slightly lower than last season.

Cabbage and Onions

CONDITION of the cabbage crop in 15 States in early June had declined to 81% of normal, which was considerably below the May report and below the figure of a year ago. Lowest condition was registered in States from Virginia to Delaware, and in southeastern Ohio. Carlot movement was only about half as heavy as last year, and averaged but 100 cars daily, chiefly from Virginia and Tennessee. Demand was poor, markets were sluggish, and prices were low—discouragingly low for growers.

The June supply of onions was quite limited. Southern Texas and southern California crops were about cleaned up. Collin county district in northern Texas was getting under way, and early shipments were reported from New Jersey and New York. Midwestern and far western onions will soon become important. Markets recently were rather firm, because of the light supplies. June condition of this crop in 20 States averaged 84% of normal, or 5 points lower than in May but just the same as a year ago. The late or main-crop onion States have been experiencing somewhat unsatisfactory growing conditions.

Western Lettuce Leading

LETTUCE was moving actively from western Washington and from central California. Output of Washington to date has been four times that of a year ago. Light shipments were starting from Idaho and Colorado. Supplies of eastern Big Boston lettuce were scarce but returns for this stock were very low. Shippers in the State of Washington were getting $2 or more per crate of 4 to 5 dozen heads of Iceberg-type lettuce. Condition of this crop in four States was only 72% of normal in June, which was considerably below average. Acreage of lettuce in the intermediate States shows a 13% increase over their 1929 plantings, and a 13% greater area than last year is being devoted to this crop in the late shipping States. Washington and New Jersey show considerable gains. Among the late States, California reports a very sharp increase of acreage, but New York and Colorado slight decreases.

New Bait Effective for Japanese Beetle Traps

JAPANESE-BEETLE trappers will have better luck this summer if they will make a slight change in the bait used in their traps by increasing the quantities of the attractive agents, geraniol and eugenol, says the United States Department of Agriculture.

Two years of experimental work at the Japanese-beetle laboratory at Moorestown, N. J., has shown that traps containing the improved bait captured more than two and one-half times as many beetles as did the traps in which the old bait was used. Increasing the quantities of geraniol and eugenol will make the bait slightly more expensive, the department says, but the increased catch will more than offset this cost.

The formula for the bait recommended by the department is as follows: Four teaspoonfuls of geraniol, one-half teaspoonful of eugenol, one and one-half cups of bran, one tablespoonful of water, two and one-half tablespoonfuls of molasses, and one and one-half teaspoonfuls of glycerine. This makes about one-third of a pound, enough to bait one of the large cylindrical traps.

Certain types of traps have small bait containers which hold not more than an ounce of bait. The quantities of the attractive agents used in such traps are necessarily very small, and the department recommends for such traps the use of as much geraniol and eugenol to 25 grams of the plain bait as is recommended for the larger quantity.

Resume Fruit Fly Fight in Florida

THE United States Department of Agriculture in co-operation with the State Plant Board has resumed work in Florida on the Mediterranean fruit fly problem, according to Arthur M. Hyde, Secretary of Agriculture.

The funds at the disposal of the Department, Secretary Hyde explained, will permit the Department to undertake spray or cleanup work only where actual infestations occur. In cases of actual infestation, this cleanup and spray work will be done under authority of the State Plant Board, an organization which performed most valuable service last season in the eradication campaign, according to Secretary Hyde, and which will fill a necessary place in the work now under way.

The intensive cleanup and spray work must be carried out by the growers, with the Department giving such assistance as is possible in the way of information and service. Intensive inspections will be continued, and it is hoped conditions will justify an order permitting the shipment of citrus fruits originating outside the zones actually infested, without sterilization, to the Northeast and Middle West. This will mean—after a reasonable period of "no infestations"—the restoration to the status of zone three of those areas in zone two where no infestations are found. Naturally, said Mr. Hyde, the extent of the areas so restored and the progress of the restoration will depend in no small measure upon the condition of neglected and abandoned properties and upon the thoroughness and diligence with which the cleanup and spray work are accomplished by growers, shippers and owners, and occupants of residence properties.

Weather Reports Broadcast by Pennsylvania College

DAILY broadcast of weather reports at high noon was started recently as a special service to Central Pennsylvania residents by the Pennsylvania State College. From its broadcasting station, WPSC, operating on 1230 kilocycles, the college will give weather reports and news items each week day at 12 o'clock, eastern standard time, except Saturdays and Sundays. The reports come direct from the United States weather bureau.

A financial writer says that the recent slump has had a sobering effect on Wall Street. Money, however, is still very tight.—*London Opinion.*